

## Physical Constants

Atomic mass unit	$1 \text{ amu} = 1.6605 \times 10^{-24} \text{ g}$
Avogadro's number	$N = 6.0221 \times 10^{23} \text{ particles/mol}$
Gas constant	$R = 8.31 \text{ L} \cdot \text{kPa/K} \cdot \text{mol}$
Ideal gas molar volume	$V_m = 22.414 \text{ L/mol}$
Masses of subatomic particles	
Electron ( $e^-$ )	$m_e = 0.0005486 \text{ amu} = 9.1096 \times 10^{-28} \text{ g}$
Proton ( $p^+$ )	$m_p = 1.007277 \text{ amu} = 1.67261 \times 10^{-24} \text{ g}$
Neutron ( $n^0$ )	$m_n = 1.008665 \text{ amu} = 1.67492 \times 10^{-24} \text{ g}$
Speed of light (in vacuum)	$c = 2.997925 \times 10^8 \text{ m/s}$